

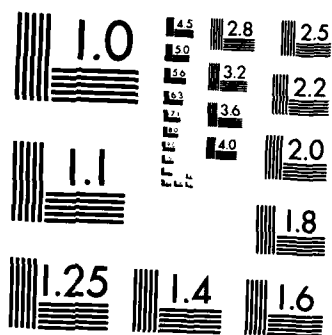
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Charles C. Petersen

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# THE "STALBO DEBATES": THEIR POINT OF DEPARTURE

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## THE "STALBO DEBATES": THEIR POINT OF DEPARTURE

In "The Soviet Navy: Changing of the Guard?"<sup>1</sup> Robert C. Suggs assesses the implications for the Soviet Navy's future of a series of articles published over the last two years in its principal theoretical journal, *Morskoy sbornik*. Even a casual examination of the nine articles so far published shows that the Soviet Navy is presently grappling with a number of contentious issues whose final resolution cannot be foreseen. Dr. Suggs' article is a commendable effort to bring these issues to the attention of a U.S. Navy readership.

The "Stalbo debates", however, reflect much more than an argument over the Soviet Navy's future. Despite the lack of a "unity of views" they expose, they also demonstrate unanimous agreement on a number of key points--a consensus that differs significantly from one that existed just a few years ago. What, we might ask, is the nature of this difference, and what does it mean?

In the opening paragraphs of the first article in the series, Vice Admiral Stalbo remarks that the "theory" he is about to set forth "has gone through a long path of development;"<sup>2</sup> and a look at the historical record shows that Soviet naval writers--including Stalbo himself--have indeed addressed the subject before. In December 1969 and again in July 1973, for example, Stalbo published articles on the history and

structure of "naval science" (*voenno-morskaya nauka*).<sup>3</sup> Naval science, he wrote in the 1973 article, is "a system of scientifically developing knowledge on the laws, regularities and principles of building the Navy, preparing it in peacetime and employing it in modern war." Stalbo's definition of the "theory of the development and employment of the Navy",<sup>4</sup> though far from identical, is similar enough to suggest that this theory is a direct descendant of naval science. A comparison of their respective structures as outlined by Stalbo in 1973 and in 1981 confirms that this is indeed the case (figure 1).

FIGURE 1: STRUCTURE OF THE THEORY (NAVAL SCIENCE) ACCORDING TO STALBO

"Naval Science"  
(*Voennaya mysl'*, July 1973)

1. General Theory of Naval Science
2. Theory of the Naval Art
3. Theory of Building the Navy
4. Theory of the Navy's Rear Support
5. Theory of the Navy's Command and Control
6. Theory of Training and Indoctrination of Navy Personnel

"Theory of the Development and Employment of the Navy"  
(*Morskoy sbornik*, April 1981)

1. General Part of the Theory
2. Theory of the Naval Art
3. Theory of Building the Navy
4. Theory of the Navy's Rear Support
5. Theory of the Navy's Command and Control
6. Theory of Operational, Tactical and Other Types of Training

In his critique of Stalbo's article, Admiral Chernavin calls for an effort to "refine [the theory's] terminology", bemoaning the lack of a "common opinion" even on how it ought to be named.<sup>5</sup> Chernavin's lament, however, is somewhat misleading: while it is true that Stalbo's critics have proposed a variety of names, all of them (without exception) call it a *theory*, and not *naval science*. A textual comparison of both editions of Admiral Gorshkov's *Sea Power of the State* indicates that this is deliberate. As figure 2 shows, the first edition of this book (signed to press in November 1975) refers to "naval science" (bordered in black in the figure) in six separate passages. The corresponding passages in the second edition (signed to press in August 1979) are almost identical, except for the references to "naval science", all of which have been either replaced by different terms (underlined in the figure) or removed altogether (where shown by the carets). Plainly, therefore, the Soviets have stricken "naval science" from their military lexicon, and did so at some point between November 1975 and August 1979.

What is more, the relationship of this discipline to its parent discipline, military science (*voennaya nauka*), has also changed. In both his 1969 and 1973 essays, Stalbo went to some lengths to highlight the independent status of naval science. Just as the natural sciences over the years had given birth to a number of self-contained disciplines, each of them a legitimate "science" in its own right, so had military science spawned an "independent system...of knowledge," naval science. Moreover, claimed Stalbo, the "detachment" of naval science from military science was growing.<sup>6</sup>

Fig. 2: COMPARISON OF FIRST AND SECOND EDITIONS OF SEA POWER OF THE STATE

1st ed. (27 Nov 75)

p. 214 Ленинские положения сыграли огромную роль в разработке основ советской военной науки. Их значение еще более возросло в век технического прогресса, создания принципиально новых вооруженных сил, строительства советского океанского флота. Они являются методологической базой советской военной доктрины, фундаментом военной и военно-морской науки и составляют основу военной политики партии, ориентированной на необходимость поддержания обороноспособности нашего государства на самом высоком уровне.

p. 362 Не рассматривая всего многообразия категорий, относящихся к области военно-морского искусства, останавливаясь лишь на таковых, на примере которых, как нам представляется, можно проследить общие тенденции развития этой отрасли Военно-морской науки.

pp. 375-376 Следует заметить, что с самого начала существования советской военно-морской науки полностью отвергала попытки отождествлять понятие «господство на море» с понятием «господство над миром».

p. 380 Из вышесказанного вытекает, что такая категория военно-морского искусства, как завоевание господства на море, продолжает сохранять актуальность, поэтому разработка ее во всех аспектах применительно к настоящему времени составляет одну из важных задач Военно-морской науки.

pp. 411-412 Правильное определение характера сбалансирования сил флота возможно только на основе глубокого научного анализа всех рассмотренных ранее предпосылок, объективно влияющих на направленность его строительства. Проблема сбалансирования флота является предметом современной военно-морской науки, охватывающей также важнейшие ее области, как военно-морское искусство, история и военно-морская техника.

p. 448 На базе глубоких научных исследований боевых возможностей новых сил и средств флота, анализа последовательности развития военно-морских сил ведущих империалистических государств, опыта оперативной подготовки нашего и иностранных флотов были определены все направления военно-морской науки, разработаны оперативно-тактические требования к новым силам флота и создана стройная теория военно-морского искусства, раскрывающая пути планирования развития этих сил и применения их в войне.

2nd ed. (6 Aug 79)

p. 190 Ленинские положения сыграли огромную роль в разработке основ советской военной науки. Их значение еще более возросло в век технического прогресса, создания принципиально новых вооруженных сил, строительства советского океанского флота. Они являются методологической базой советской военной доктрины, фундаментом военной науки и составляют основу военной политики партии, ориентированной на необходимость поддержания обороноспособности нашего государства на самом высоком уровне.

p. 331 Не рассматривая всего многообразия категорий, относящихся к области военно-морского искусства, останавливаясь лишь на таковых, на примере которых, как нам представляется, можно проследить общие тенденции его развития.▲

p. 342 Следует заметить, что с самого начала существования советского военно-морского искусства полностью отвергала попытки отождествлять понятие «господство на море» с понятием «господство над миром».

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p. 405 На базе глубоких научных исследований боевых возможностей новых сил и средств флота, анализа последовательности развития военно-морских сил ведущих империалистических государств, опыта оперативной подготовки нашего и иностранных флотов были разработаны оперативно-тактические требования к новым силам флота и создана стройная теория военно-морского искусства, раскрывающая пути планирования развития этих сил и применения их в войне.

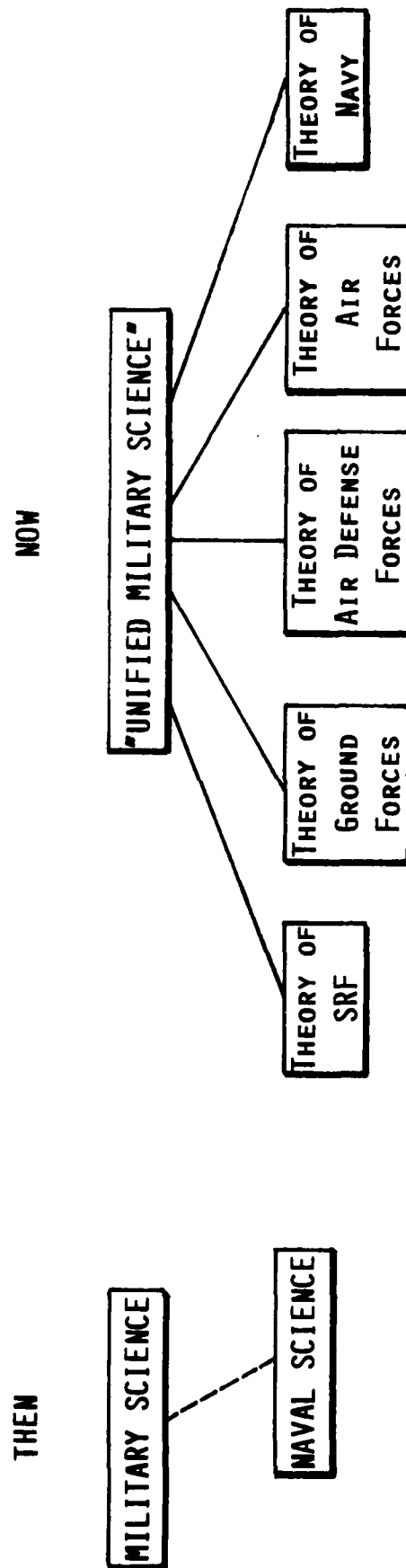


In dramatic contrast, all of those involved in the recent debate, Stalbo included, underscore the subordinate status of the new "theory." "The dependence of the theory [of development and employment of the Navy] on military science as a whole has grown. Its ties of subordination...with military science have expanded," wrote Stalbo in *Morskoy sbornik* in April 1981. "Today...there is no purely specific realm of warfare," observes Admiral Chernavin, Chief of the Soviet Navy's Main Staff, in the January 1982 *Morskoy sbornik*. "Victory is achieved by the combined efforts of [all branches of the armed forces], which brings about the need to integrate all knowledge of warfare within the framework of a unified military science." Five of the remaining seven participants in the debate echo this point, thereby reminding the journal's readership that it, at least, is beyond the pale of argument.<sup>7</sup>

But these are not the only signs of change. Of the five Soviet services, only the Navy at one time possessed its own "science": there was no "Ground Forces science", or "Air Forces science", or "Strategic Rocket Forces science", or "Air Defense Forces science". Today, in contrast, all the services have their "theories", and the Navy's theory enjoys no special status among them (figure 3). Neither Stalbo nor any of his critics sees fit to contest this new state of affairs. As Admiral Sysoev points out in the March 1982 *Morskoy sbornik*, "to regard the theories of the [five] branches of the [Soviet] Armed Forces as integral parts of military science has been recognized as fully rightful."

\* \* \*

FIG. 3: NOW MILITARY SCIENCE HAS CHANGED



What, then, is the significance of this obvious "unity of views?" What prior decisions affecting the Soviet Navy--or perhaps the Soviet Armed Forces overall--might it reflect? For surely the demise of an independent naval science points to more than just the whim of Marxist-Leninist scholastics concerned only with eliminating the taxonomic irregularities of Soviet military science. The most recent article in the debate, written by Captain First Rank V. Shlomin,<sup>8</sup> suggests an answer.

A unified military science, Shlomin writes, stems directly from the need for "close coordination and unification according to a single plan of action of the efforts of all branches of the Armed Forces" in wartime. Combined action, of course, has always been a major tenet of Soviet military doctrine.<sup>9</sup> Over the past decade, however, it has risen to become "one of the fundamental principles...of warfare..., without [which] not one of the tasks of the armed struggle can be performed."<sup>10</sup>

Since the early 1950s and until recently, command-and-control responsibility for combined action at the strategic level was vested solely in the General Staff or, in wartime, a Supreme High Command. But in the middle 1970s evidence began to appear that the Soviets had revived their World War II concept of "intermediate strategic leadership

echelons" embodied in theater-level High Commands (*glavnokomandovaniya*) with full authority over all forces operating in certain theaters of military action (TVDs).<sup>11</sup>

According to Shlomin, the purpose of such High Commands in World War II was to improve the coordination of combined operations in the TVDs where they were established. The practice "became widespread", he notes, "owing to the need to coordinate the [military] actions of...formations from the various branches of the armed forces in the interests of the common tasks of the armed struggle....Thus, a nation's armed forces are objectively a unified [and] integrated organizational system....In the USSR Armed Forces the Navy functions not separately, not on its own, for without the other services it cannot effectively perform its tasks...."<sup>12</sup> Clearly, therefore, the abolition of naval science, the creation of "theories" for each of the five services under a "unified" military science, and the establishment of TVD High Commands such as the one reported in the Soviet Far East in 1979<sup>13</sup> have all issued from decisions to reorganize the Soviet Armed Forces with a view to the better integration of their efforts in wartime.

But there may well be more in what Shlomin writes than that. For one thing, he is the first naval officer to discuss TVD High Commands: until now, only Army officers have broached the subject.<sup>14</sup> For another, his reference to the Navy's tasks points to *maritime* missions where the Navy will require help from the other services—not continental missions

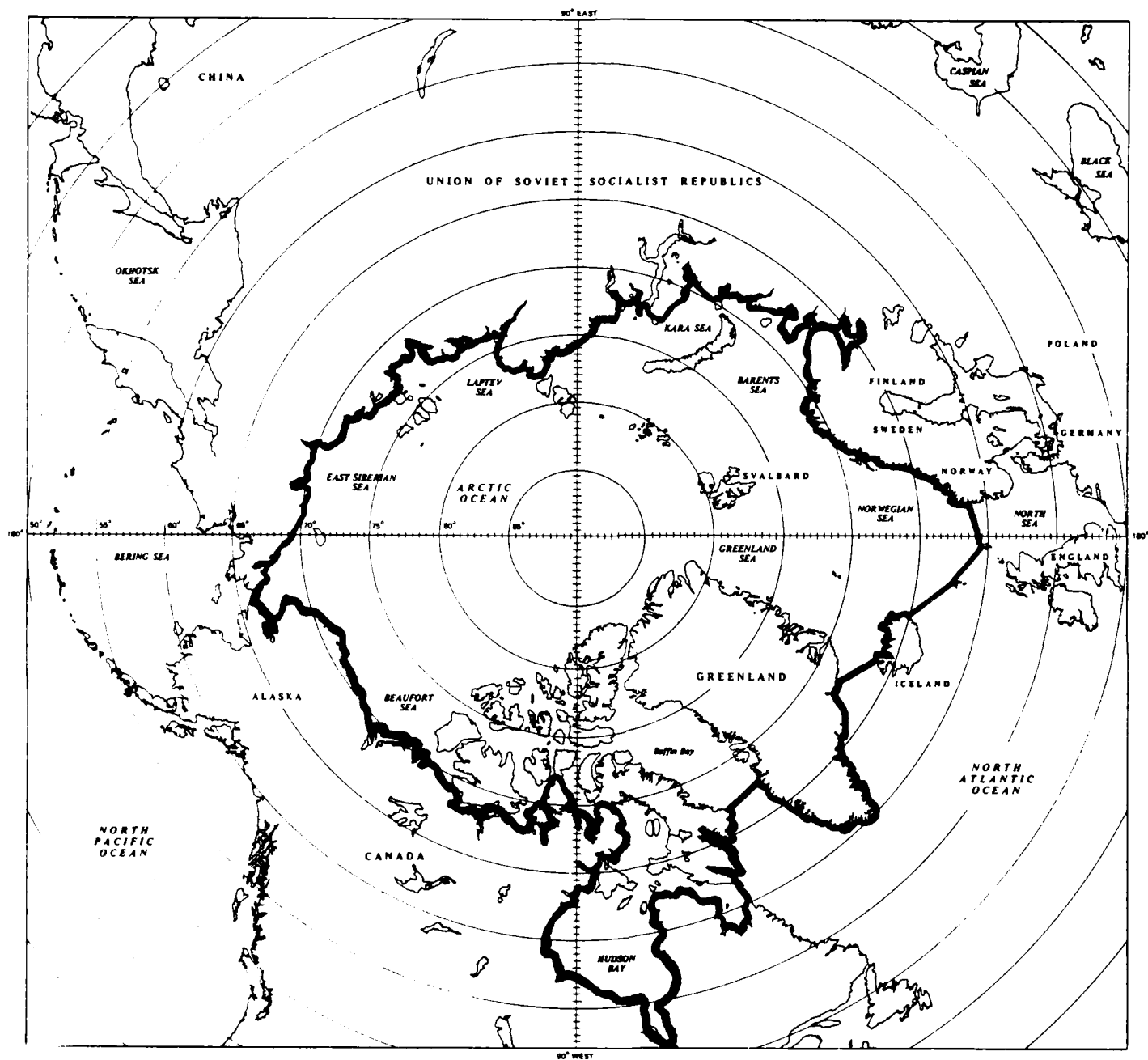
where the latter may need help from the Navy (in which case a formulation such as "without the Navy, the other services cannot effectively perform their tasks" would have served better). Putting the two together, then, we might reasonably wonder whether Shlomin's discussion bespeaks a Soviet decision to set up a new TVD High Command, one whose dominant concern will be the execution of maritime missions in an ocean theater.

*An Arctic TVD High Command?*

"Some circumstantial evidence is very strong," wrote Thoreau, "as when you find a trout in the milk." Plainly, Shlomin's words can scarcely be likened to Thoreau's trout; but if we ask ourselves *where* and for *what mission* would a High Command such as the one posited make sense, our case gathers strength.

Of the four regions--Atlantic, Pacific, Indian and Arctic--defined as "ocean TVDs" by the *Soviet Military Encyclopedia*,<sup>15</sup> the Arctic Ocean TVD (figure 4) is probably foremost in importance, for it is here that more than three-fifths of the Soviet Navy's SSBNs are based, and it is here that most of them are likely to operate in wartime.<sup>16</sup>

FIG. 4: BOUNDARIES OF THE ARCTIC OCEAN TVD AS  
DEFINED BY THE *SOVIET MILITARY ENCYCLOPEDIA*



The finger on the Navy's intercontinental nuclear trigger in this theater, of course, will almost certainly be Moscow's. But there is another mission whose cardinal importance might well require a High Command in the TVD: gaining and maintaining command of the sea (*gospodstvo na more*), which the Soviets define as "superiority over the enemy in a sea or ocean TVD (or part thereof) that provides a navy...with favorable conditions for carrying out its main missions."<sup>17</sup> Without command of the sea in the Arctic TVD, the Soviets believe, the Navy's Northern Fleet SSBNs would be vulnerable to enemy efforts to locate and destroy them. Small wonder, therefore, that Admiral Gorshkov devotes 4,000 words to the subject in his book *Sea Power of the State*, even though strictly speaking command of the sea from the Soviet point of view is only an instrumental goal of naval warfare, "not an end in itself."

To be sure, it could be argued that gaining command of the sea is above all a naval problem, and hence beyond the compass of a TVD High Command, whose purpose is, after all, to direct the combined endeavors of several services, not just the Navy alone. But even though it is true that command of the sea is primarily a maritime concern, it does not follow that gaining it will be exclusively a naval mission.

When we in the West think of command of the sea, we tend to conceive of it almost entirely in terms of what naval forces do on the water. To the Soviets, however, the outcome of events ashore is of critical moment, and dictates the coordinated involvement of other branches of the Armed Forces in the overall effort. In both editions of *Sea Power of the State*, for example, Gorshkov observes that "the experience of the Great Patriotic War has shown that successful operations by ground-force fronts and their seizure of new littoral area: also favor winning command of the sea. An example of this is the attainment of command [of the sea] by our fleets in the Black, Baltic and Barents Seas as the result of operations conducted jointly by ground forces and the fleets."<sup>18</sup> What is more, Gorshkov's mention of ground-force fronts--the Soviet equivalent of army groups--suggests that the scale of involvement by the Navy's sister services will be far from incidental.

Combined action with the sister services to occupy littoral areas is vital to the Soviet Navy for three reasons. First, it will free Soviet Naval Infantry units for small-scale missions that it must perform alone, without help from the Ground Forces--such as the seizure of strategic islands in the theater. Second, it will free the Navy from having to engage enemy naval forces that have been captured or destroyed in port during offensives ashore.<sup>19</sup> Finally, it will eliminate opposition from enemy shore-based air power; and what is equally important as long as the Soviets lack carrier-based air-superiority



fighters, it will give the Soviet Navy a means of securing "command of the air"--without which, to the Soviets, command of the sea is "unthinkable"<sup>20</sup>--in vital areas of the theater such as the Norwegian Sea.

\* \* \*

For all the contention reflected in the "Stalbo debates," then, the participants all agree on a number of key points. This consensus is very likely a product of decisions made in the last half of the 1970s to reshape the Soviet Armed Forces organizationally and theoretically for the sake of better integrating their combined efforts in wartime. One result of this reorganization has been the establishment of a High Command in the Far Eastern TVD. A High Command in charge of operations to gain command of the sea in the Arctic TVD may yet be another. No such authority has so far been reported in the press; but the decision to create one may already have been made.

#### FOOTNOTES

<sup>1</sup>Proceedings, April 1983, pp. 36-42.

<sup>2</sup>*Morskoy sbornik*, April 1981, p., 20.

<sup>3</sup>*Morskoy sbornik*, December 1969, pp. 32-37; *Voennaya mysl'*, July 1973, pp. 56-67.

<sup>4</sup>"A system of scientifically valid...knowledge which has been corroborated by practice and which reveals, on the basis of Marxism-Leninism, the fundamental regularities of building and developing the Navy, as well as of employing it in warfare and in peacetime" (*Morskoy sbornik*, April 1981, p. 20).

<sup>5</sup>*Morskoy sbornik*, January 1982, p. 20.

<sup>6</sup>*Morskoy sbornik*, December 1969, pp. 34-35; *Voennaya mysl'*, July 1973, p. 56.

<sup>7</sup>G. Kostev, *Morskoy sbornik*, November 1981, p. 24; V.S. Sysoev, *Morskoy sbornik*, March 1982, p. 21; V. Gulin and Yu. Borisov, *Morskoy sbornik*, November 1982, p. 26; V. Shlomin, *Morskoy sbornik*, April 1983, pp. 20-23 *passim*.

<sup>8</sup>*Morskoy sbornik*, April 1983, pp. 20-27.

<sup>9</sup>V.D. Sokolovskiy (ed.), *Voennaya strategiya* (3rd ed, 1968), p. 240.

<sup>10</sup>G. Kostev, *Morskoy sbornik*, February 1974, p. 33.

<sup>11</sup>For discussions of these developments, see Gregory C. Baird, "Glavnoe Komandovanie: The Soviet Theater Command," *Naval War College Review*, May-June 1980, pp. 40-48; Gregory C. Baird, "The Soviet Theater Command: An Update", *Naval War College Review*, November-December 1981, pp. 90-93; Phillip A. Petersen, "The Soviet Conceptual Framework for the Application of Military Power," *Naval War College Review*, May-June 1981, pp. 15-25.

<sup>12</sup>Shlomin, *Morskoy sbornik*, April 1983, p. 23.

<sup>13</sup>See Petersen, *Naval War College Review*, May-June 1981, p. 20.

<sup>14</sup>See, for example, General of the Army V. Kulikov, *Voenno-istoricheskiy zhurnal*, June 1975, pp. 12-24; Colonel I. Vyrodov, *Voenno-istoricheskiy zhurnal*, April 1979, pp. 18-23; Colonel-General V. Karpov, *Voenno-istoricheskiy zhurnal*, August 1981, pp. 24-25.

FOOTNOTES (Continued)

<sup>15</sup> *Sovetskaya Voennaya Entsiklopediya*, vol. 8 (Moscow, 1980) pp. 8-9.

<sup>16</sup> Department of Defense, *Soviet Military Power* (2nd ed., 1983), pp. 22-23.

<sup>17</sup> *Sovetskaya Voennaya Entsiklopediya*, vol. 2 (Moscow, 1976), pp. 620-621.

<sup>18</sup> *Morskaya moshch' gosudarstva* 1st ed. (Moscow, 1976) p. 379; 2nd ed. (Moscow, 1979), p. 345.

<sup>19</sup> See S. Filonov, *Morskoy sbornik*, April 1973, pp. 22-26 on the role of destroying enemy naval forces in port in the attainment of command of the sea.

<sup>20</sup> Yu. Bystrov, *Morskoy sbornik*, March 1977, p. 17; G. Kostev, *Morskoy sbornik*, November 1981, p. 25.

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Mangel, Marc, "Fluctuations in Systems with Multiple Steady States. Application to Lanchester Equations," 12 pp., Feb 78 (Presented at the First Annual Workshop on the Information Linkage Between Applied Mathematics and Industry, Naval PG School, Feb 23-25, 1978), AD A071 472
- PP 214  
Weinland, Robert G., "A Somewhat Different View of The Optimal Naval Posture," 37 pp., Jun 1978 (Presented at the 1976 Convention of the American Political Science Association (APSA)/IUS Panel on "Changing Strategic Requirements and Military Posture"), Chicago, Ill., September 2, 1976), AD A056 228
- PP 215  
Colle, Russell C., "Comments on: Principles of Information Retrieval by Manfred Kochen," 10 pp., Mar 78 (Published as a Letter to the Editor, Journal of Documentation, Vol. 31, No. 4, pages 298-301), December 1975), AD A054 426
- PP 216  
Colle, Russell C., "Lotka's Frequency Distribution of Scientific Productivity," 18 pp., Feb 1978 (Published in the Journal of the American Society for Information Science, Vol. 28, No. 6, pp. 366-370, November 1977), AD A054 425
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Colle, Russell C., "Bibliometric Studies of Scientific Productivity," 17 pp., Mar 78 (Presented at the Annual meeting of the American Society for Information Science held in San Francisco, California, October 1976), AD A054 442
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Huntzinger, R. LaVar, "Market Analysis with Rational Expectations: Theory and Estimation," 60 pp., Apr 78, AD A054 422
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Mizrahi, Maurice M., "Correspondence Rules and Path Integrals," 30 pp., Jun 1978 (Invited paper presented at the CNRS meeting on "Mathematical Problems in Feynman's Path Integrals," Marseille, France, May 22-26, 1978) (Published in Springer Verlag Lecture Notes in Physics, 106, (1979), 234-253) AD A055 536
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\*Portions of this work were started at the Institute of Applied Mathematics and Statistics, University of British Columbia, Vancouver, B.C., Canada
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\*Portions of this work were completed at the Institute of Applied Mathematics and Statistics, University of British Columbia, Vancouver, Canada.
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Mangel, Marc, "Diffusion Theory of Reaction Rates, I: Formulation and Einstein-Smoluchowski Approximation," 50 pp., Jan 1978, AD A058 541
- PP 230  
Mangel, Marc, "Diffusion Theory of Reaction Rates, II Ornstein-Uhlenbeck Approximation," 34 pp., Feb 1978, AD A058 542
- PP 231  
Wilson, Desmond P., Jr., "Naval Projection Forces: The Case for a Responsive MAF," Aug 1978, AD A054 543
- PP 232  
Jacobson, Louis, "Can Policy Changes Be Made Acceptable to Labor?" Aug 1978 (Submitted for publication in Industrial and Labor Relations Review), AD A061 528

\*CNA Professional Papers with an AD number may be obtained from the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22151. Other papers are available from the Management Information Office, Center for Naval Analyses, 2000 North Beauregard Street, Alexandria, Virginia 22311. An Index of Selected Publications is also available on request. The Index includes a Listing of Professional Papers; with abstracts; issued from 1969 to June 1981.

- PP 233  
Jacobson, Louis, "An Alternative Explanation of the Cyclical Pattern of Quits," 23 pp., Sep 1978
- PP 234 - Revised  
Jondrow, James and Levy, Robert A., "Does Federal Expenditure Displace State and Local Expenditure: The Case of Construction Grants," 25 pp., Oct 1979, AD A061 529
- PP 235  
Mizrahi, Maurice M., "The Semiclassical Expansion of the Anharmonic-Oscillator Propagator," 41 pp., Oct 1978 (Published in Journal of Mathematical Physics 20 (1979) pp. 844-855), AD A061 538
- PP 237  
Maurer, Donald, "A Matrix Criterion for Normal Integral Bases," 10 pp., Jan 1979 (Published in the Illinois Journal of Mathematics, Vol. 22 (1978), pp. 672-681)
- PP 238  
Urgoff, Kathleen Classen, "Unemployment Insurance and The Employment Rate," 20 pp., Oct 1978 (Presented at the Conference on Economic Indicators and Performance: The Current Dilemma Facing Government and Business Leaders, presented by Indiana University Graduate School of Business), AD A061 527
- PP 239  
Trost, R. P. and Warner, J. T., "The Effects of Military Occupational Training on Civilian Earnings: An Income Selectivity Approach," 38 pp., Nov 1979k, AD A077 831
- PP 240  
Powers, Bruce, "Goals of the Center for Naval Analyses," 13 pp., Dec 1978, AD A063 759
- PP 241  
Mangel, Marc, "Fluctuations at Chemical Instabilities," 24 pp., Dec 1978 (Published in Journal of Chemical Physics, Vol. 69, No. 8, Oct 15, 1978), AD A063 787
- PP 242  
Simpson, William R., "The Analysis of Dynamically Interactive Systems (Air Combat by the Numbers)," 160 pp., Dec 1978, AD A063 760
- PP 243  
Simpson, William R., "A Probabilistic Formulation of Murphy Dynamics as Applied to the Analysis of Operational Research Problems," 18 pp., Dec 1978, AD A063 761
- PP 244  
Sherman, Allan and Horowitz, Stanley A., "Maintenance Costs of Complex Equipment," 20 pp., Dec 1978 (Published By The American Society of Naval Engineers, Naval Engineers Journal, Vol. 91, No. 6, Dec 1979) AD A071 473
- PP 245  
Simpson, William R., "The Accelerometer Methods of Obtaining Aircraft Performance from Flight Test Data (Dynamic Performance Testing)," 403 pp., Jun 1979, AD A075 226
- PP 246  
Brechtling, Frank, "Layoffs and Unemployment Insurance," 35 pp., Feb 1979 (Presented at the Nber Conference on "Low Income Labor Markets," Chicago, Jun 1978), AD A096 629
- PP 248  
Thomas, James A., Jr., "The Transport Properties of Dilute Gases in Applied Fields," 183 pp., Mar 1979, AD A096 464
- PP 249  
Glasser, Kenneth S., "A Secretary Problem with a Random Number of Choices," 23 pp., Mar 1979
- PP 250  
Mangel, Marc, "Modeling Fluctuations in Macroscopic Systems," 26 pp., Jun 1979
- PP 251  
Trost, Robert P., "The Estimation and Interpretation of Several Selectivity Models," 37 pp., Jun 1979, AD A075 941
- PP 252  
Nunn, Walter R., "Position Finding with Prior Knowledge of Covariance Parameters," 5 pp., Jun 1979 (Published in IEEE Transactions on Aerospace & Electronic Systems, Vol. AES-15, No. 3, Mar 1979)
- PP 253  
Glasser, Kenneth S., "The d-Choice Secretary Problem," 32 pp., Jun 1979, AD A075 225
- PP 254  
Mangel, Marc and Quenbeck, David B., "Integration of a Bivariate Normal Over an Offset Circle," 14 pp., Jun 1979, AD A096 471
- PP 255 - Classified, AD 8051 441L
- PP 256  
Maurer, Donald E., "Using Personnel Distribution Models," 27 pp., Feb 1980, AD A082 218
- PP 257  
Thaler, R., "Discounting and Fiscal Constraints: Why Discounting is Always Right," 10 pp., Aug 1979, AD A075 224
- PP 258  
Mangel, Marc S. and Thomas, James A., Jr., "Analytical Methods in Search Theory," 86 pp., Nov 1979, AD A077 832
- PP 259  
Glass, David V.; Hsu, In-Ching; Nunn, Walter R., and Perin, David A., "A Class of Commutative Markov Matrices," 17 pp., Nov 1979, AD A077 833
- PP 260  
Mangel, Marc S. and Cope, Davis K., "Detection Rate and Sweep Width in Visual Search," 14 pp., Nov 1979, AD A077 834
- PP 261  
Villa, Carlos L.; Zvijac, David J. and Ross, John, "Frank-Condon Theory of Chemical Dynamics. VI. Angular Distributions of Reaction Products," 14 pp., Nov 1979 (Reprinted from Journal Chemical Phys. 70(12), 15 Jun 1979), AD A076 287
- PP 262  
Petersen, Charles C., "Third World Military Elites in Soviet Perspective," 50 pp., Nov 1979, AD A077 835
- PP 263  
Robinson, Kathy L., "Using Commercial Tankers and Container-ships for Navy Underway Replenishment," 25 pp., Nov 1979, AD A077 836

- PP 264  
Weinland, Robert G., "The U.S. Navy in the Pacific: Past, Present, and Glimpses of the Future," 31 pp., Nov 1979 (Delivered at the International Symposium on the Sea, sponsored by the International Institute for Strategic Studies, The Brookings Institution and the Yomiuri Shimbun, Tokyo, 16-20 Oct 1978) AD A066 837
- PP 265  
Weinland, Robert G., "War and Peace in the North: Some Political Implications of the Changing Military Situation in Northern Europe," 18 pp., Nov 1979 (Prepared for presentation to the Conference of the Nordic Balance in Perspective: The Changing Military and Political Situation," Center for Strategic and International Studies, Georgetown University, Jun 15-16, 1978) AD A077 838
- PP 266  
Utgoff, Kathy Classen, and Brachling, Frank, "Taxes and Inflation," 25 pp., Nov 1979, AD A081 194
- PP 267  
Trost, Robert P., and Vogel, Robert C., "The Response of State Government Receipts to Economic Fluctuations and the Allocation of Counter-Cyclical Revenue Sharing Grants," 12 pp., Dec 1979 (Reprinted from the Review of Economics and Statistics, Vol. LXI, No. 3, August 1979)
- PP 268  
Thomason, James S., "Seaport Dependence and Inter-State Cooperation: The Case of Sub-Saharan Africa," 141 pp., Jan 1980, AD A081 193
- PP 269  
Weiss, Kenneth G., "The Soviet Involvement in the Ogaden War," 42 pp., Jan 1980 (Presented at the Southern Conference on Slavic Studies in October, 1979), AD A082 219
- PP 270  
Remnek, Richard, "Soviet Policy in the Horn of Africa: The Decision to Intervene," 52 pp., Jan 1980 (To be published in "The Soviet Union in the Third World: Success or Failure," ed. by Robert H. Donaldson, Westview Press, Boulder, Co., Summer 1980), AD A081 195
- PP 271  
McConnell, James, "Soviet and American Strategic Doctrines: One More Time," 43 pp., Jan 1980, AD A081 192
- PP 272  
Weiss, Kenneth G., "The Azores in Diplomacy and Strategy, 1940-1945," 46 pp., Mar 1980, AD A085 094
- PP 273  
Nakada, Michael K., "Labor Supply of Wives with Husbands Employed Either Full Time or Part Time," 39 pp., Mar 1980, AD A082 220
- PP 274  
Nunn, Walter R., "A Result in the Theory of Spiral Search," 9 pp., Mar 1980
- PP 275  
Goldberg, Lawrence, "Recruiters Advertising and Navy Enlistments," 34 pp., Mar 1980, AD A082 221
- PP 276  
Goldberg, Lawrence, "Delaying an Overhaul and Ship's Equipment," 40 pp., May 1980, AD A085 095
- PP 277  
Mangel, Marc, "Small Fluctuations in Systems with Multiple Limit Cycles," 19 pp., Mar 1980 (Published in SIAM J. Appl. Math., Vol. 38, No. 1, Feb 1980) AD A086 229
- PP 278  
Mizrahi, Maurice, "A Targeting Problem: Exact vs. Expected-Value Approaches," 23 pp., Apr 1980, AD A085 096
- PP 279  
Walt, Stephen M., "Causal Inferences and the Use of Force: A Critique of Force Without War," 50 pp., May 1980, AD A085 097
- PP 280  
Goldberg, Lawrence, "Estimation of the Effects of A Ship's Steaming on the Failure Rate of its Equipment: An Application of Econometric Analysis," 25 pp., Apr 1980, AD A085 098
- PP 281  
Mizrahi, Maurice M., "Comment on 'Discretization Problems of Functional Integrals in Phase Space'," 2 pp., May 1980, published in "Physical Review D", Vol. 22 (1980), AD A094 994
- PP 283  
Dismukes, Bradford, "Expected Demand for the U.S. Navy to Serve as An Instrument of U.S. Foreign Policy: Thinking About Political and Military Environmental Factors," 30 pp., Apr 1980, AD A085 099
- PP 284  
J. Kelison,\* W. Nunn, and U. Sumita,\*\* "The Laguerre Transform," 119 pp., May 1980, AD A085 100  
\*The Graduate School of Management, University of Rochester and the Center for Naval Analyses  
\*\*The Graduate School of Management, University of Rochester
- PP 285  
Remnek, Richard B., "Superpower Security Interests in the Indian Ocean Area," 26 pp., Jun 1980, AD A087 113
- PP 286  
Mizrahi, Maurice M., "On the WKB Approximation to the Propagator for Arbitrary Hamiltonians," 25 pp., Aug 1980 (Published in Journal of Math. Phys., 22(1) Jan 1981), AD A091 307
- PP 287  
Cope, Davis, "Limit Cycle Solutions of Reaction-Diffusion Equations," 35 pp., Jun 1980, AD A087 114
- PP 288  
Golman, Walter, "Don't Let Your Slides Flip You: A Painless Guide to Visuals That Really Aid," 28 pp., (revised Aug 1982), AD A092 732
- PP 289  
Robinson, Jack, "Adequate Classification Guidance - A Solution and a Problem," 7 pp., Aug 1980, AD A091 212
- PP 290  
Watson, Gregory H., "Evaluation of Computer Software in an Operational Environment," 17 pp., Aug 1980, AD A091 213
- PP 291  
Maddala, G. S., and Trost, R. P., "Some Extensions of the Nerlove Press Model," 17 pp., Oct 1980, AD A091 946  
\*University of Florida

- PP 292  
Thomas, James A., Jr., "The Transport Properties of Binary Gas Mixtures in Applied Magnetic Fields," 10 pp., Sep 1980 (Published in Journal of Chemical Physics 72(10), 15 May 1980)
- PP 293  
Thomas, James A., Jr., "Evaluation of Kinetic Theory Collision Integrals Using the Generalized Phase Shift Approach," 12 pp., Sep 1980 (Printed in Journal of Chemical Physics 72(10), 15 May 1980)
- PP 294  
Roberts, Stephen S., "French Naval Policy Outside of Europe," 30 pp., Sep 1980 (Presented at the Conference of the Section on Military Studies, International Studies Association, Kilauea Island, S.C.), AD A091 306
- PP 295  
Roberts, Stephen S., "An Indicator of Informal Empire: Patterns of U.S. Navy Cruising on Overseas Stations, 1869-1897," 40 pp., Sep 1980 (Presented at Fourth Naval History Symposium, US Naval Academy, 26 Oct 1979), AD A091 316
- PP 296  
Dismukes, Bradford, and Petersen, Charles C., "Maritime Factors Affecting Iberian Security," (Factores Maritimos que Afectan la Seguridad Iberica) 14 pp., Oct 1980, AD A092 733
- PP 297 - Classified
- PP 298  
Mizrahi, Maurice M., "A Markov Approach to Large Missile Attacks," 31 pp., Jan 1981, AD A096,159
- PP 299  
Jondrow, James M., and Levy, Robert A., "Wage Leadership in Construction," 19 pp., Jan 1981, AD A094 797
- PP 300  
Jondrow, James, and Schmidt, Peter,\* "On the Estimation of Technical Inefficiency in the Stochastic Frontier Production Function Model," 11 pp., Jan 1981, AD A096 160  
\*Michigan State University
- PP 301  
Jondrow, James M.; Levy, Robert A.; and Hughes, Claire, "Technical Change and Employment in Steel, Autos, Aluminum, and Iron Ore," 17 pp., Mar 1981, AD A099 394
- PP 302  
Jondrow, James M., and Levy, Robert A., "The Effect of Imports on Employment Under Rational Expectations," 19 pp., Apr 1981, AD A099 392
- PP 303  
Thomson, James, "The Rarest Commodity in the Coming Resource Wars," 3 pp., Aug 1981 (Published in the Washington Star, 13 Apr 1981), AD A104 221
- PP 304  
Duffy, Michael K.; Greenwood, Michael J.;\* and McDowell, John M.,\*\* "A Cross-Sectional Model of Annual Interregional Migration and Employment Growth: Intertemporal Evidence of Structural Change, 1958-1975," 31 pp., Apr 1981, AD A099 393  
\*University of Colorado  
\*\*Arizona State University
- PP 305  
Nunn, Laura M., "An Introduction to the Literature of Search Theory," 32 pp., Jun 1981, AD A100 420
- PP 306  
Anger, Thomas E., "What Good Are Warfare Models?" 7 pp., May 1981, AD A100 421
- PP 307  
Thomson, James, "Dependence, Risk, and Vulnerability," 43 pp., Jun 1981, AD A102 698
- PP 308  
Mizrahi, M.M., "Correspondence Rules and Path Integrals, 17 pp., Jul 1981. (Published in "Nuovo Cimento B", Vol. 61, 1981), AD A102 699
- PP 309  
Weinland, Robert G., "An (The?) Explanation of the Soviet Invasion of Afghanistan," 44 pp., May 1981, AD A100 422
- PP 310  
Stanford, Janette M., and Wu, Tai Te,\* "A Predictive Method for Determining Possible Three-dimensional Foldings of Immunoglobulin Backbones Around Antibody Combining Sites," 19 pp., Jun 1981 (Published in J. Theor. Biol., 1981), 88, AD A100 423  
\*Northwestern University
- PP 311  
Bowes, Marianne, Brechling; Frank P. R.; and Utgoff, Kathleen P. Classen, "An Evaluation of UI Funds," 13 pp., May 1981 (Published in National Commission on Unemployment Compensation's "Unemployment Compensation: Studies and Research," Volume 2, Jul 1980), AD A100 424
- PP 312  
Jondrow, James; Bowes, Marianne; and Levy, Robert, "The Optimum Speed Limit," 23 pp., Jul 1983 (Revised), AD A100 425
- PP 313  
Roberts, Stephen S., "The U.S. Navy in the 1980s," 36 pp., Jul 1981, AD A102 696
- PP 314  
Jehn, Christopher; Horowitz, Stanley A.; and Lockman, Robert F., "Examining the Draft Debate," 20 pp., Jul 1981, AD A106 192
- PP 315  
Buck, Ralph V. (Capt., USN), "Le Catastrophe by any other name...", 4 pp., Jul 1981, AD A102 697
- PP 316  
Roberts, Stephen S., "Western European and NATO Navies, 1980," 20 pp., Aug 1981, AD A104 223
- PP 317  
Roberts, Stephen S., "Superpower Naval Crisis Management in the Mediterranean," 33 pp., Aug 1981, AD A104 222
- PP 318  
Vego, Milan N., "Yugoslavia and the Soviet Policy of Force in the Mediterranean Since 1961," 187 pp., Aug 1981

- PP 319  
Smith, Michael W., "Anti-air Warfare Defense of Ships at Sea," 46 pp., Sep 1981 (This talk was delivered at the Naval Warfare System and Technology Conference of the American Institute of Aeronautics and Astronautics in Washington on 12 Dec 1980; in Boston on 20 Jan 1981; and in Los Angeles on 12 Jun 1981.), AD A106 191
- PP 320  
Trost, R. P.; Lurie, Philip; and Berger, Edward, "A Note on Estimating Continuous Time Decision Models," 15 pp., Sep 1981, AD A106 193
- PP 321  
Duffy, Michael K., and Ladman, Jerry R., "The Simultaneous Determination of Income and Employment in United States--Mexico Border Region Economies," 34 pp., Sep 1981, AD A106 540  
\*Associate Professor of Economics, Arizona State University
- PP 322  
Warner, John T., "Issues in Navy Manpower Research and Policy: An Economist's Perspective," 66 pp., Dec 1981, AD A110 221
- PP 323  
Bosse, Frederick M., "Generation of Correlated Log-Normal Sequences for the Simulation of Clutter Echoes," 33 pp., Dec 1981
- PP 324  
Horowitz, Stanley A., "Quantifying Seapower Readiness," 6 pp., Dec 1981 (Published in Defense Management Journal, Vol. 18, No. 2), AD A110 220
- PP 326  
Roberts, Stephen S., "Western European and NATO Navies, 1981," 27 pp., Jul 1982, AD A118 703
- PP 327  
Hammon, Colin (Capt., USN), and Graham, David R., "Estimation and Analysis of Navy Shipbuilding Program Disruption Costs," 12 pp., Mar 1980, AD A112 514
- PP 328  
Weinland, Robert G., "Northern Waters: Their Strategic Significance," 27 pp., Dec 1980, AD A112 509
- PP 329  
Mangel, Marc, "Applied Mathematicians And Naval Operators," 40 pp., Mar 1982 (Revised), AD A116 598
- PP 330  
Lockman, Robert F., "Alternative Approaches to Attrition Management," 30 pp., Jan 1982, AD A112 510
- PP 331  
Roberts, Stephen S., "The Turkish Straits and the Soviet Navy in the Mediterranean," 15 pp., Mar 1982 (Published in Navy International)
- PP 332  
Jehn, Christopher, "The RDF and Amphibious Warfare," 36 pp., Mar 1982, AD A113 592
- PP 333  
Lee, Lung-Fel,\* and Trost, Robert P., "Estimation of Some Limited Dependent Variable Models with Application to Housing Demand," 26 pp., Jan 1982. (Published in Journal of Econometrics 8 (1978), AD A 112 536  
\*University of Minnesota
- PP 334  
Kenny, Lawrence W.;\* Lee, Lung-Fel;\*\* Maddala, G. S.;\* and Trost, R. P., "Returns to College Education: An Investigation of Self-Selection Bias Based on the Project Talent Data," 15 pp., Jan 1982. (Published in International Economic Review, Vol. 20, No. 3, Oct 1979), AD A112 480  
\*University of Florida  
\*\*University of Minnesota
- PP 335  
Lee, Lung-Fel;\* Maddala, G. S.;\*\* and Trost, R.P., "Asymptotic Covariance Matrices of Two-Stage Probit and Two-Stage Tobit Methods for Simultaneous Equations Models with Selectivity," 13 pp., Jan 1982. (Published in Econometrica, Vol. 48, No. 2, Mar 1980), AD A112 483  
\*University of Minnesota  
\*\*University of Florida
- PP 336  
O'Neill, Thomas, "Mobility Fuels for the Navy," 13 pp., Jan 1982. (Accepted for publication in Naval Institute Proceedings), AD A112 511
- PP 337  
Warner, John T., and Goldberg, Matthew S., "The Influence of Non-Pecuniary Factors on Labor Supply: The Case of Navy Enlistment Personnel," 23 pp., Dec 1981, AD A113 094
- PP 339  
Wilson, Desmond P., "The Persian Gulf and the National Interest," 11 pp., Feb 1982, AD A112 505
- PP 340  
Lurie, Philip; Trost, R. P.; and Berger, Edward, "A Method for Analyzing Multiple Spell Duration Data," 34 pp., Feb 1982, AD A112 504
- PP 341  
Trost, Robert P., and Vogel, Robert C.,\* "Prediction with Pooled Cross-Section and Time-Series Data: Two Case Studies," 6 pp., Feb 1982, AD A112 503  
\*Southern Illinois University
- PP 342  
Lee, Lung-Fel;\* Maddala, G. S.;\*\* and Trost, R. P., "Testing for Structural Change by D-Methods in Switching Simultaneous Equations Models," 5 pp., Feb 1982, AD A112 482  
\*University of Minnesota  
\*\*University of Florida
- PP 343  
Goldberg, Matthew S., "Projecting the Navy Enlisted Force Level," 9 pp., Feb 1982, AD A112 484
- PP 344  
Fletcher, Jean, W., "Navy Quality of Life and Reenlistment," 13 pp., Nov 1981, AD A113 095



- PP 345  
Utgoft, Kathy, and Thaler, Dick, "The Economics of Multi Year Contracting," 47 pp., Mar 1982. (Presented at the 1982 Annual Meeting of the Public Choice Society, San Antonio, Texas, 5-7 Mar 1982), AD A114 732  
\*Cornell University
- PP 346  
Rostker, Bernard, "Selective Service and the All-Volunteer Force," 23 pp., Mar 1982, AD A113 096
- PP 347  
McConnell, James M., "A Possible Counterforce Role for the Typhoon," 24 pp., Mar 1982, AD A116 601
- PP 348  
Jondrow, James, and Trost, Robert, "An Empirical Study of Production Inefficiency in the Presence of Errors-in-The-Variables," 14 pp., Feb 1982, AD A113 591
- PP 349  
Breckenridge, W. H., and Maimin, O. Kim, "Collisional Intramultiplet Relaxation of  $Cd(5s5p^3P_{0,1,2})$  by Alkane Hydrocarbons," 7 pp., Jul 1981. (Published in Journal of Chemical Physics, 76(4), 15 Feb 1982), AD A113 093  
\*University of Utah, Dept. of Chemistry
- PP 350  
Levin, Marc, "A Method for Increasing the Firepower of Virginia Class Cruisers," 10 pp., Apr 1982. (To be published in U.S. Naval Institute Proceedings), AD A116 602
- PP 351  
Coutre, S. E.,\* Stanford, J. M.; Movis, J. G.;\* Stevens, P. W.,\* and Wu, T. T.,\* "Possible Three-Dimensional Backbone Folding Around Antibody Combining Site of Immunoglobulin MOPC 167," 18 pp., Apr 1982 (Published in Journal of Theoretical Biology)  
\*Northwestern University, Depts. of Biochemistry & Molecular Biology and Engineering Sciences & Applied Mathematics
- PP 352  
Barfoot, C. Bernard, "Aggregation of Conditional Absorbing Markov Chains," 7 pp., Jun 1982 (Presented to the Sixth European Meeting on Cybernetics and Systems Research, held at the University of Vienna, Apr 1982), AD A116 603
- PP 353  
Barfoot, C. Bernard, "Some Mathematical Methods for Modeling the Performance of a Distributed Data Base System," 18 pp., Jun 1982. (Presented to the International Working Conference on Model Realism, held at Bad Honnek, West Germany, Apr 1982), AD A116 604
- PP 354  
Hall, John V., "Why the Short-War Scenario is Wrong for Naval Planning," 6 pp., Jun 1982., AD A118 702
- PP 356  
Cylke, Steven; Goldberg, Matthew S.; Hogan, Paul; and Meirs, Lee, "Estimation of the Personal Discount Rate: Evidence from Military Reenlistment Decisions," 19 pp., Apr 1982, AD A122 419
- PP 357  
Goldberg, Matthew S., "Discrimination, Nepotism, and Long-Run Wage Differentials," 13 pp., Sep 1982 (Published in Quarterly Journal of Economics, May 1982)
- PP 358  
Akst, George, "Evaluating Tactical Command And Control Systems--A Three-Tiered Approach," 12 pp., Sep 1982, AD 122 478
- PP 359  
Quester, Aline; Fletcher, Jean; and Marcus, Alan; "Veteran Status as a Screening Device: Comment," 26 pp., Aug 1982, AD A123 658
- PP 361  
Quanbeck, David B., "Methods for Generating Aircraft Trajectories," 51 pp., Sep 1982, AD A122 386
- PP 362  
Horowitz, Stanley A., "Is the Military Budget Out of Balance?", 10 pp., Sep 1982, AD A122 368
- PP 363  
Marcus, A. J., "Personnel Substitution and Navy Aviation Readiness," 35 pp., Oct 1982, AD A122 420
- PP 364  
Quester, Aline, and Nakade, Michael, "The Military's Monopsony Power," 29 pp., Oct 1982, AD A123 657
- PP 365  
Greer, William L., and Bartholomew, James C., (Cdr,USN), "Psychological Aspects of Mine Warfare," 15 pp., Oct 1982 AD A128 244
- PP 366  
Sprull, Nancy L., and Gestwirth, Joseph L.,\* "On the Estimation of the Correlation Coefficient From Grouped Data," 9 pp., Oct 1982, (Published in the Journal of the American Statistical Association, Sep 1982, Vol. 77, No. 379, Theory and Methods Section), AD A122 382  
\*George Washington University, Dept. of Statistics
- PP 368  
Weinland, Robert G., "The Evolution of Soviet Requirements for Naval Forces--Solving the Problems of the Early 1960s," 41 pp., Dec 1982, AD A123 655
- PP 369  
Quester, Aline, and Lockman, Robert, "The All-Volunteer Force: A Positive Perspective," 29 pp., Nov 1982, AD A128 279
- PP 370  
Rostker, Bernard D., "Human Resource Models: An Overview," 17 pp., Nov 1982, AD A123 656
- PP 372  
Hurley, William J., "An Overview of Acoustic Analysis," 46 pp., Jan 1983, AD A128 316
- PP 373  
Jacobson, Louis, "Research to Quantify the Effect of Permanent Change of Station Moves on Wives' Wages and Labor Supply," 35 pp., Jan 1983, AD A128 300
- PP 374  
Cisay-Mendez, Deborah, and Bellis, Ellen, "Balancing Accession and Retention: The Disaggregate Model," 27 pp., Aug 1982
- PP 375  
Feldman, Paul, "Privatizing Airports in Washington, D.C.," 17 pp., Feb. 1983, AD A128 236

- PP 376  
Weiss, Kenneth G., "Power Grows Out of the Barrel of a Gunboat: The U.S. in Sino-Soviet Crises," 136 pp., Dec 1982
- PP 379  
Jondrow, James M.; Chase, David E.; and Gamble, Christopher L., "The Price Differential Between Domestic and Imported Steel," 17 pp., May 1983
- PP 380  
Balls, Ellen, "Balancing Accession and Retention: Cost and Productivity Tradeoffs," 38 pp., Mar 1983
- PP 381  
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- PP 382  
Levy, Robert A., and Jondrow, James M., "The Adjustment of Employment to Technical Change in the Steel and Auto Industries," 40 pp., May 1983
- PP 383 (Revised)  
Thomas, James A., Jr. and Mangel, Marc, "Properties of Quick Look Passive Localization," 39 pp., Jul 1983
- PP 384  
Goldberg, Matthew S., and Hager, Michael F., "A Comparison of the Prophet and ACOL Force Projection Models," 35 pp., Jun 1981
- PP 385  
Angler, Bruce; Driscoll, Kurt; and Gregory, David, "Manpower Requirements Derivation for the Navy Comprehensive Compensation and Supply Study," 22 pp., Sep 1982
- PP 386  
Angler, Bruce N.; Driscoll, Kurt A.; and Carpenter, Kathy A., "Construction of 'Training Cost Per Graduate' for the Navy Comprehensive Compensation and Supply Study," 67 pp., Nov 1982
- PP 387  
Balls, Ellen, and Clay-Mendez, Deborah, "Balancing Accession and Retention: The Aggregate Model," 20 pp., Jul 1982
- PP 388  
Clay-Mendez, Deborah, "Models of Accession and Retention," 11 pp., Oct 1982
- PP 389  
Clay-Mendez, Deborah, "A Minimum Recruiting Cost Function for Male High School Graduates," 31 pp., Jan 1982
- PP 390  
Clay-Mendez, Deborah, "Documentation for the Recruiting Cost Estimates Utilized in the Navy Comprehensive Compensation and Supply Study," 30 pp., Sep 1982
- PP 391  
Goldberg, Larry, "Summary of Navy Enlisted Supply Study," 11 pp., Jul 1981
- PP 392  
Warner, John T., and Simon, Bruce, "An Empirical Analysis of Pay and Navy Enlisted Retention in the AVF: Preliminary Results," 51 pp., Dec 1979
- PP 394  
McGibney, Donald; Camerini, Ugo; Roberts, Arthur; and Winston, Roland, "Development of an Underwater High Sensitivity Cherenkov Detector: See Urchin," 20 pp., Aug 1983
- PP 396  
Jondrow, James M.; Brechling, Frank; and Marcus, Alan; "Older Workers in the Market for Part-Time Employment," 34 pp., Aug 1983
- PP 398  
Levy, Robert A.; Bowes, Marianne; and Jondrow, James M.; "Technical Change and Employment in the Steel, Auto, Aluminum, Coal, and Iron Ore Industries," 25 pp., Sep 1983
- PP 400  
Laird, Robbin F., "French Nuclear Forces in the 1980s and 1990s," 37 pp., Aug 1983
- PP 401  
Maloney, Arthur P., "The Berlin-Baghdad Railway as a Cause of World War I," 27 pp., Jan 1984
- PP 404  
Petersen, Charles C., "The 'Staibo Debates': Their Point of Departure," 15 pp., Jan 1984
- PP 405  
Petersen, Charles C., "Aircraft Carriers in Soviet Naval Theory From 1960 to the Falklands War," 20 pp., Jan 1984

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